

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A bearing apparatus comprising:
a porous bush impregnated with lubricant;
a shaft supported by the bush;
a quench hardened section formed in a projecting manner on an outer surface of the shaft which faces an inner surface of the bush; and
an indentation which is formed between portions of the quench hardened section and traps lubricant flowing out of the bush,
wherein the quench hardened section has a surface hardness Hv of 550 or more.
2. (Original) The bearing apparatus according to claim 1, wherein the quench hardened section is helically provided on the outer surface of the shaft.
3. (Currently Amended) ~~The A bearing apparatus according to claim 1~~ comprising:
a porous bush impregnated with lubricant;
a shaft supported by the bush;
a quench hardened section formed in a projecting manner on an outer surface of the shaft which faces an inner surface of the bush; and
an indentation which is formed between portions of the quench hardened section and traps lubricant flowing out of the bush,
wherein the quench hardened section is provided on the outer surface of the shaft in the form of a line parallel to an axial direction of the shaft.
4. (Original) The bearing apparatus according to claim 1, wherein the quench hardened section is provided on the outer surface of the shaft in the form of a plurality of circles.
5. (Original) The bearing apparatus according to claim 1, wherein the quench hardened section is provided on the outer surface of the shaft in the form of a lattice.

6. (Original) The bearing apparatus according to claim 2, wherein the quench hardened section is provided on the outer surface of the shaft such that one side of the quench hardened section with respect to a substantial center of the shaft in an axial direction thereof and the other side of the quench hardened section are the form of inverted helixes.

7. (Original) The bearing apparatus according to any one of claims 1 to 6, further comprising:

sealing members provided on both sides of the bush in an axial direction thereof,

wherein the quench hardened section is provided at positions on the outer surface of the shaft facing the sealing members.

8. (Currently Amended) A construction equipment which is provided with the bearing apparatus according to claim 7 ~~any one of claims 1 to 7~~, the bearing apparatus being provided at a joint of arms constituting an articulated arm.

9. (Currently Amended) A shaft comprising:

a quench hardened section formed on an outer surface of the shaft in a projecting manner;

and

an indentation formed between portions of the quench hardened section,

wherein the indentation traps lubricant flowing out of a porous bush which is impregnated with lubricant and supports the shaft, and

wherein the quench hardened section has a surface hardness Hv of 550 or more.

10. (Original) The shaft according to claim 9, wherein the quench hardened section is helically provided on the outer surface of the shaft.

11. (Currently Amended) ~~The A shaft according to claim 9 comprising:~~
a quench hardened section formed on an outer surface of the shaft in a projecting manner;
and
an indentation formed between portions of the quench hardened section,
wherein the indentation traps lubricant flowing out of a porous bush which is
impregnated with lubricant and supports the shaft, and
wherein the quench hardened section is provided on the outer surface of the shaft in the form of a line parallel to an axial direction of the shaft.

12. (Currently Amended) ~~The A shaft according to claim 9 comprising:~~
a quench hardened section formed on an outer surface of the shaft in a projecting manner;
and
an indentation formed between portions of the quench hardened section,
wherein the indentation traps lubricant flowing out of a porous bush which is
impregnated with lubricant and supports the shaft, and
wherein the quench hardened section is provided on the outer surface of the shaft in the form of a plurality of circles.

13. (Original) The shaft according to claim 9, wherein the quench hardened section is provided on the outer surface of the shaft in the form of a lattice.

14. (Original) The shaft according to claim 10, wherein the quench hardened section is provided on the outer surface of the shaft such that one side of the quench hardened section with respect to a substantial center of the shaft in an axial direction thereof and the other side of the quench hardened section are the form of inverted helixes.

15. (New) The bearing apparatus according to claim 1, wherein the quench hardened section has a shaft-surface area ranging from 20% to 80% of the outer surface of the shaft which faces the inner surface of the bush.

16. (New) The shaft according to claim 9, wherein the quench hardened section has a shaft-surface area ranging from 20% to 80% of a total shaft-surface area occupied by the quench hardened section plus that of the indentation.

17. (New) A bearing apparatus comprising:
a porous bush impregnated with lubricant;
a shaft supported by the bush;
a quench hardened section formed in a projecting manner on an outer surface of the shaft which faces an inner surface of the bush; and
an indentation which is formed between portions of the quench hardened section and traps lubricant flowing out of the bush, wherein the quench hardened section has a shaft-surface area of 50% or more of the outer surface of the shaft which faces the inner surface of the bush.

18. (New) A shaft comprising:
a quench hardened section formed on an outer surface of the shaft in a projecting manner;
and
an indentation formed between portions of the quench hardened section,
wherein the indentation traps lubricant flowing out of a porous bush which is impregnated with lubricant and supports the shaft, and
further wherein the quench hardened section has a shaft-surface area of 50% or more of a total shaft-surface area occupied by the quench hardened section plus that of the indentation.